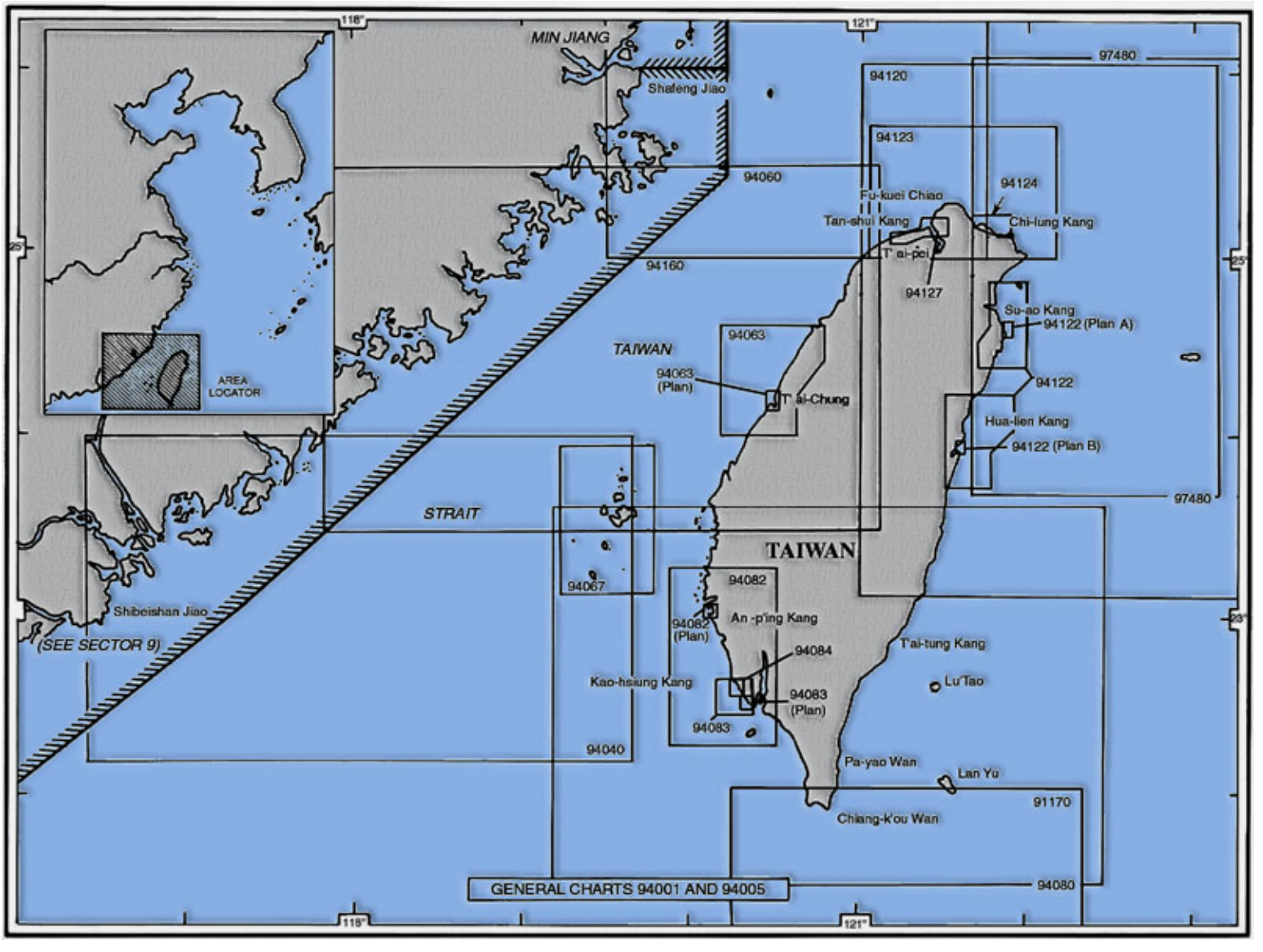
Click on "See Sector" to be hotlinked to that Sector.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **8** — CHART INFORMATION

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SECTOR 8

TAIWAN AND TAIWAN STRAIT

Plan.—This sector describes in order Taiwan, Taiwan Strait, P'eng-hu Ch'un-tao, and adjacent islands. The description is N to S and, for Taiwan, from the E coast to the W coast.

General Remarks

8.1 Taiwan (Formosa), located off the SE coast of China, is a large sub-tropical island about 210 miles long by 80 miles wide. A central range of mountains, with peaks rising to 3,944m, extends the length of the island. Volcanic peaks dot the N part of the island. A coastal range rises abruptly from the middle portion of the E coast. The W coast is mostly considered to be low and sandy and has a few isolated hills. It is fronted by a coastal bank which is reported to have large areas of tidal flats.

The E coast is rocky and steep-to and has few indentations, save along the N part where there are some small bays with off-lying islets and rocks. In places, cliffs rise abruptly to a height of 457m. The principal harbors are Chi-lung Kang, on the N coast of the island, and Kao-hsiung Kang, on the SW coast.

Taiwan Strait (Formosa Strait) is the body of water lying between the W coast of Taiwan and the mainland coast. It has a least width of about 70 miles.

The strait is navigable by all classes of vessels, but strong currents require careful attention and prudent seamanship.

The strait has not been fully surveyed; there are a number of isolated shoals and dangerous wrecks, with depths of less than 20m and which can best be seen on the chart.

P'eng-hu Ch'un-tao (Pescadores Islands), described in paragraph 8.26, is an extensive archipelago of rocks and low-lying islands lying off the W central coast of Taiwan. The islands are irregular, fronted by reefs, and difficult to make out in poor visibility.

Limited shelter is available at P'eng-hu Kang and at Ma-kung Kang.

There are numerous fishing harbors along the coast of Taiwan, most of which are marked by minor navigation lights.

Winds—Weather.—Winds and weather for Taiwan are strongly under the influence of the seasonal monsoon winds which alternately circulate clockwise out of the area of high barometric pressure in Siberia and from the high in the North Pacific Ocean. The Northwest Monsoon season (October to March) has cool, moist NE to E winds which, blowing at an average rate of 10 to 15 knots, produce clouds, rain and low visibility on the N and E coasts of the island and, because of the barrier imposed by the central mountain range, clear, dry, and warmer weather on the W and SW coasts. The Southwest Monsoon season (June to August) has warm moist S to SW winds which blowing at an average of 6 knots, produce clouds and characteristically heavy intermittent showers on the W and SW coast of the island and, once over the central range, clear, dry and hot weather on the E coast. Winds of the Southwest Monsoon season are never as strong or as constant as those of the NE and often become subordinate to local land and sea breezes.

During the transitional months of April, May and September, the prevailing weather is a combination of that produced during the Northwest Monsoon and Southwest Monsoon seasons.

From October to April the sea and swell is high, especially in Taiwan Strait and is predominantly from the NE. From April to September it is low to calm, except when acted upon by typhoons.

Storms with winds in excess of 25 knots occur most frequently during the winter months, with the greatest frequency occurring in December. Few storms, other than those associated with typhoons occur during the summer. Typhoons may occur at any time of the year, though few if any, pass near enough in January and February to produce an adverse effect. They are most frequent from June to September, with August being the peak month when on the average more than two every year reach the E coast.

Low ceiling and poor visibility occur chiefly during the heavy showers of the Southwest Monsoon season and during the Northwest Monsoon season when moisture-laden air moves up the E slopes of the central mountain range. Haze extending to considerable heights often reduces visibility from October to December.

In the N part of the island, fog occurs 5 per cent of the time from January to April and less than 1 per cent from May to December. Fog does not occur in the S part of the island.

Tides—Currents.—The clockwise circulation of the N equatorial current flowing N and NE, reaches the E coast of Taiwan as the dark Kuroshio or Japan Current. The main axis of the current flows N, 12 to 20 miles off the S part of the island and trends generally parallel to the coast until off the N part of the island where it swings NE. Current velocity and set remain the same throughout the year, though the velocity in the summer is somewhat greater than in winter due probably to the retarding effect of the Northwest Monsoon. The rate varies between one knot to over 3 knots. Nearer the coast currents are variable and greatly influenced by the wind. Vessels can expect abrupt changes in velocity and set when rounding San-tiao Chiao.

Tidal currents are weak and irregular. Along the S part of the E coast they are uncertain. Along the N part, they set N on a rising tide and S on a falling tide, with a maximum velocity of less than 1.5 knots.

Taiwan East Coast—Fu-kuei Chiao to San-tiao Chiao

8.2 **Fu-kuei Chiao** (25˚18'N., 121˚32'E.), the N extremity of Taiwan, is a steep-to, rock-fringed, low-lying point which rises gradually to a 1,103m summit about 5 miles to the SSE. The lighthouse standing on the point is reported difficult to

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distinguish against the dark mountains rising behind it. A radiobeacon transmits from the light.

Caution.—Fu-kuei Chiao should be given a wide berth as N and NE winds cause strong tide races and heavy seas off the point.

The coastline between Fu-kuei Chiao and San-tiao Chiao, about 31 miles ESE, is irregular and consists of several large bights indented by a number of small bays and lesser coves. Inland, the coastline is backed by rugged hills which, forming the foreslopes of the mountainous ridge of the interior, reach the sea in a series of bold, rock-fringed, steep-to promontories. Offshore, the 20m curve parallels the coastline at a distance of approximately one mile.

The bold and rugged N coast of Taiwan, reported radar conspicuous at 28 miles, contains several anchorages for small vessels and the major seaport Chi-lung Kang. It is fronted by a number of extending islands well offshore.

P'eng-chia Yu (25˚38'N., 122˚04'E.), about 36 miles NE of Fu-kuei Chiao, with two rounded peaks, is a grassy steep-sided island which rises steep-to on its E side and elsewhere shelves gradually to depths greater than 20m at a distance of about 0.3 mile. The island is reported radar conspicuous at about 16 miles.

A light is situated on the summit of P'eng-chia Yu. A rocky shoal, with a depth of 16m, lies 1.75 miles S of P'eng-chia Yu. A depth of 23m was reported to lie about 25 miles E of P'eng-chia Yu.

Caution.—Mariners are advise to avoid the oil exploration area in the vicinity of 25˚36'N., 121˚53'E.

Mien-hua Yu (25˚29'N., 122˚06'E.), about 8 miles SSE of P'eng-chia Yu, is an islet with three rounded summits and there is an area of foul ground that fronts Mien-hua Yu's N side.

Hua-p'ing Yu (25˚25'N., 121˚57'E.), a 47m high rock with black perpendicular sides, is the tallest of a group of rocks on a steep-to reef lying about 14 miles SSW of P'eng-chia Yu.

Caution.—Volcanic activity, along with tide rips and discolored water, has been reported about 40 miles NNE of P'eng-chia Yu.

Shih-tzu-t'ou Pi (25˚14'N., 121˚39'E.), about 7 miles ESE of Fu-kuei Chiao, is a precipitous point distinguished close S by a conspicuous, round-topped low hill. A drying rocky reef lies about one mile E of the point. A high, prominent rock stands on the reef.

Small vessels with local knowledge anchor with limited shelter close SE of Shih-tzu-t'ou Pi.

Chi-lung Kang (25˚09'N., 121˚46'E.)

World Port Index No. 57890

8.3 Chi-lung Kang (Keelung) (25˚09'N., 121˚46'E.) consists of a small, landlocked inlet divided into an outer and an inner harbor. The outer harbor is sheltered seaward by breakwaters and a group of three islets. There is berthing for deep-draft vessels in the SW part of the outer harbor. The inner harbor continues the outer harbor to the SW and has extensive alongside berthing facilities for deep-draft ocean-going vessels.

Chi-lung, lying at the head of Chi-lung Kang, is the shipping center for the N part of Taiwan and the N terminus of the railroad connecting with T'ai-pei, the administrative capital of the island.

Winds—Weather.—In the winter, from October to March, the winds are strong from the NE, usually causing a constant heavy sea and swell in the outer harbor. In the summer, the winds are lighter and are from the W and SW. The typhoon threat lasts from June until late in the year. The heaviest rainfall occurs from November to January.

Fog, which can last all day, sometimes occurs from March until May. The rest of the year, a morning fog and haze, which can reduce visibility in the port to less than 1 mile, and which usually burns off 1 to 2 hours after sunrise, is common.

Tides—Currents.—The tidal range is irregular; the maximum range is 1.9m. The tidal currents outside the harbor entrance have a maximum rate of 2 to 3 knots, with the E current stronger in the winter and the W current stronger in the summer.

At the harbor entrance the flood current sets SW and the ebb current sets NE, at a maximum rate of 1.75 knots. In the winter, the ebb current is stronger than the flood current, while during the summer the reverse is true. The tidal current velocities usually reach their peak about 1 to 2 hours after high or LW.

Tidal currents are negligible inside the breakwater.

Depths—Limitations.—The harbor is entered through a 0.2 mile wide channel between two breakwaters. There are 37 deep water berths and 21 shallow draft berths; they are described in the accompanying table.

Four mooring buoys can accommodate up to six vessels of 10,000 dwt with a maximum length of 215m. It has been reported that the harbor can accept vessels with a maximum length of 274.3m and a maximum draft of 10.8m.

Hsin Lai (25˚12'N., 121˚44'E.), a rocky shoal with a depth of 18m, lies 2 miles N of the harbor entrance.

Chi-lung Kang—Harbor Facilities

Berth No.	Length	Depth	Remarks
Northwest side of harbor			
1A/1B	250m	2.4-6.7m	—
2-3	387m	8.7m	Passengers
4	—	8.6m	Quick dispatch
5-6	191m	4.6m	Private
7-10	520m	5.5-10.9m	General cargo
11-12	350m	8.2-10.5m	Tankers
12B	260m	7.5-8.5m	Bulk
14-15	340m	8.1-8.7m	Cranes
16-18	600m	—	Containers
19-20	486m	10.4-11.3m	Containers
21	250m	8-11m	Containers
22-26	1,130m	7.3-14.4m	Containers

Chi-lung Kang—Harbor Facilities			
Berth No.	**Length**	**Depth**	**Remarks**
27-28	260m	7m	LASH terminal
29-32	690m	7-11.1m	Grain
33A-33B	305m	8.8-11.1m	Tankers
Southeast side of harbor			
2-4	670m	6.8-9.7m	—
5-7	550m	8.4-9.4m	—
8-9	—	—	Containers
10-11	510m	11-13m	Containers
15-17	520m	Less than 5m	—
19-22	540m	4.6-8.2m	—

Aspect.—Chi-lung Tao (25˚12'N., 121˚47'E.) is a precipitous, black, rocky island 182m high, and is an excellent mark for making Chi-lung Kang. Hsiao-chi, a 30m high islet, lies close off its NW side. A spit of sand and gravel, on which there are strong tide races and which should not be crossed, extends 1 mile SW of Chi-lung Tao.

A stranded wreck lies about 0.5 mile SW of Chi-lung Tao.

Wan-jen-tui Pi (25˚10'N., 121˚44'E.) is the W entrance point to the harbor. On the seaward side of the point are several patches of perpendicular stratified cliffs.

A conspicuous white statue stands on the hillside 1 mile S of Wan-jen-tui Pi, in position 25˚08'N., 121˚45'E.

Ho-p'ing Tao (25˚09'N., 121˚46'E.), the largest island at the harbor entrance, is joined to the NE shore of the harbor by a bridge.

Inner Harbor is entered between a short breakwater extending from No. 2 Pier, and An Lan breakwater, 0.2 mile ENE. Niu-chou Kang, the basin which extends 0.3 mile from the NW side of the Inner Harbor, is fronted entirely by wharves.

Three conspicuous power station chimneys, marked by obstruction lights are reported to be situated W of the harbor entrance. A large white building stands close in the vicinity.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 14. Pilots board 1 to 2 miles N of the breakwater. Pilots are available for vessels arriving from overseas between 0700 and 2300. Departure can be made 24 hours. Berthing and unberthing can be done 24 hours.

Regulations.—Vessels should contact Keelung Port Radio on VHF channel 16 or 14 when 10 miles from the harbor entrance, stating:

1. Vessel name.
2. Nationality.
3. Call sign/letters.
4. ETA outside the harbor.

Before arrival, vessels should contact Keelung Port Radio on VHF channel 12 to obtain the exact time of pilot boarding.

Vessels should contact the harbor radio on VHF channels 16 and 14 when 10 miles from the harbor entrance.

Permission to enter the harbor must be obtained through the traffic control signal station, described later.

At the harbor entrance, the traffic separation scheme shown on the chart, is not approved by the International Maritime Organzation (IMO). Rule 10 of 72 COLREGS is to be followed.

Stopping or anchoring in the fairway is prohibited.

Entry without a pilot after dark or in poor visibility is not recommended.

Signals.—Traffic signals for control of vessel traffic in the entrance are displayed from a signal station at the root of the outer E breakwater.

Vessels proceeding into Nui-ch'ou Kang must sound one long blast on entering the Inner Harbor. Those vessels leaving the basin should make a similar signal not more than 1 minute after getting underway.

Anchorage.—It has been reported that anchorage with good holding ground can be obtained SE of **Yeh-liu Pan-tao** (25˚13'N., 121˚42'E.) and W of longitude 121˚43'E.

Vessels anchored here are hardly affected by tidal currents and lie head to wind.

The quarantine anchorage lies on the E side of the Outer Harbor, clear of the fairway, in depths of about 7.3 to 13.1m. It is usually congested and precautions are necessary to prevent swinging on to other vessels on a change of wind direction. Anchorage is prohibited in the central and W parts of the fairway in the Outer Harbor.

Directions.—In the approaches to Chi-Lung Kang, the 700m wide entrance fairway leads on heading 170˚ towards the entrance through position 25˚12.6'N., 121˚44.0'E. The exit fairway leads outward on heading 012˚ from the entrance over position 25˚12.2'N., 121˚45.3'E.

Vessels are prohibited to anchor or stop in the fairways. The national authorities also advise that Rule 10 of 72 COLREGS to be followed in the fairways.

Caution.—Ships leaving the harbor, irrespective of the existing weather conditions, may encounter heavy swells.

8.4 Shen-ao Wan (25˚08'N., 121˚49'E.) is a small bay about 4 miles S of Chi-lung Kang; the intervening coast is fringed with rocks and reefs. An oil terminal exists in the bay which can accommodate tankers up to 36,000 grt, secured to dolphins, with a maximum length of 224m and a maximum draft of 10.8m. Smaller tankers secure to a wharf fronting a reclaimed area with depths of 6m alongside. The oil company's master acts as a pilot and will normally board the vessel at 25˚09'N., 121˚50'E., about 1 mile NE of Fan-Tzu-Ao Pi, the N entrance point of the bay.

Vessels are requested to advise their agents, by radio, at least 24 hours prior to arrival, of ETA, draft, quantity, and description of cargo carried aboard. A copy of the above information sent to CHINOL, Keelung for entry arrangements. On arrival, vessels should report to Keelung Port Radio Station by VHF or to Keelung Harbor Signal Station by flash signal to apply for anchorage and berthing instructions. Water and provisions are available. A conspicuous, round-topped high hill rises abruptly from the coastline about one mile to the E. The lights of a mine near the summit of a 750m peak, about 3 miles SE of the bay, are visible on clear nights for a distance of about 30 miles. A light is situated from the head of the reclaimed land on the SE

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side of the entrance. Range lights at the head of the bay lead into it on a SW course.

Vessels, seeking shelter from all but NE winds, enter Shen-ao Wan and anchor, in depths of 11 to 13m.

The coast from Shen-ao Wan to San-tiao Chiao, 12 miles SE, is mostly mountainous.

Pi-t'ou Chiao (25˚08'N., 121˚55'E.), situated 5 miles E of Shen-ao Wan and marked by a light, is a steep, cliffy headland about 121m high; from a distance the point appears to be an island.

Taiwan—East Coast—San-Tiao Chiao to San-Hsien-t'ai

8.5 **San-tiao Chiao** (25˚01'N., 122˚00'E.), the NE extremity of Taiwan, is a bold, steep-to promontory topped by a plateau. Several prominent summits, rising close inland, are good landmarks for identifying the promontory from a distance. Submerged rocks extend up to 0.5 mile offshore. A light is situated on San-tiao Chiao.

An oceanographic observation platform is situated 6.8 miles NNE of **San-tiao Chiao** (25˚07'N., 122˚02'E.) The platform shows two white flashing warning lights. All vessels are to keep clear.

Caution.—A tidal race extends 0.15 mile offshore; the cape should be given a wide berth.

The coastline between San-tiao Chiao and San-hsien-t'ai, about 118 miles SSW, is regular with but few indentations interrupting the general trend to the S. Bold, rugged hills rise abruptly from the shore and throughout, with rare exception, continue inland to the mile-high peaks of the central mountain range.

Areas of low land lie only at the entrances to rivers which, mostly enter the sea through gorges and steep-sided valleys.

Large alluvial plains lie adjacent to two major rivers which reach the sea 20 and 63 miles SSW of San-tiao Chiao. Offshore, depths are considerable. The 20m curve parallels the coastline at a distance of about one mile while the 200m curve lies throughout at a distance of about 4 miles, with the exception in the N part where depths tend to shoal.

From San-tiao Chiao to **T'ou-ch'eng Ch'uan** (24˚51'N., 121˚49'E.), an estuary about 14 miles to the SW, the mountains approach the coast which is steep and rocky with foul ground extending 0.3 mile off it in places.

Kuei-shan Tao (24˚51'N., 121˚57'E.), about 10 miles SSW of San-tiao Chiao, is a steep-to, precipitous volcanic island having a group of sunken pinnacle rocks about 2 miles to the SW. White vapor rises from the S shore. Sulfur, rising from the ocean floor, discolors the water to the S of the W extremity of the island.

From N and S the island resembles a tortoise with the pointed summit at its E point resembling the head and a pebble bank extending W from the W end of the island resembling the tail. A light is shown from the W side of the island.

Vessels anchor, in depths of less than 20m, sand, in a position about 0.3 mile off a small village at the head of a small bay on the NW side of the island. A prohibited anchorage, best seen on the chart, surrounds Kuei-shan Tao.

Kuei-luan Yen (24˚49'N., 121˚56'E.), 2.5 miles S of the W end of Kuei-shan Tao, is a group of rocks 9m high. Another isolated rock, 1m high, lies 1.5 miles ENE of Kuei-luan Yen.

The coast from Tou-ch'eng Ch'uan to **Pei Chiao** (24˚36'N., 121˚53'E.), the N entrance point to Su-ao Kang, about 15 miles S, consists of a sandy beach with sand dunes 6m high; behind the dunes there is a broad fertile plain irrigated by numerous rivers.

Su-Ao Kang (24˚36'N., 121˚52'E.)

World Port Index No. 57900

8.6 Su-ao Kang is the only natural harbor on the E coast of Taiwan with sheltered anchorage for large vessels during the season of the Northwest Monsoon.

A group of rocks lies about one mile E of the head of the N promontory. The body of water between the rocks and the foul ground extending about 0.5 mile ENE from the promontory head is deep, but passage is not recommended.

Winds—Weather.—NE winds predominate in winter. SE winds in summer send in a dangerous sea.

Tides—Currents.—Tidal currents along the coast in the vicinity of Su-ao Kang have a maximum rate of less than 1 knot; they set N on the flood tide and S on the ebb tide. A weak tidal current sets into Su-ao Kang along its N shore on the flood tide.

When approaching N of the E coast of Taiwan, abrupt changes can be experienced in the rate and direction of tidal currents after passing San-tiao Chiao.

Depths—Limitations.—Pier facilities are described in the accompanying table.

Su-Ao Kang—Harbor Facilities

Pier	Length	Max. vessel length	Depth	Remarks
1	200m	150m	8.0m	
2	170m	140m	10.3m	Break bulk
3	210m	170m	10.5m	Cement
4	300m	190m	11.1m	Cement
5	200m	180m	10.0m	Break bulk
6	290m	240m	15.1m	Containers
7	240m	200m	12.5m	Containers
8	125m	110m	7.0m	Logs
9	125m	110m	7.0m	Logs
10	175m	150m	8.5m	General
11	175m	150m	8.0m	General
12	200m	150m	7.5m	Break bulk
13	180m	150m	8.5m	Break bulk

Aspect.—Su-ao Kang is entered between South Breakwater, extending ENE then NE for about 0.7 mile, and North Breakwater, which is 183m long and detached. Another breakwater

extends 0.25 miles SW from the E entrance point of **Pei-fang Wan** (24˚36'N., 121˚53'E.).

Lights are situated from the heads of North and South Breakwater. A directional light, the white sector of which indicates the harbor approach, is situated at the head.

San-hsien-t'ai (24˚36'N., 121˚54'E.), 0.8 mile E of Pei Chiao, is a group of above water rocks, of which the W and largest is 29m high. Mi Tao, another group of above water rocks, lies 0.2 mile NE of San-hsien-tai; the two largest rocks in this group are 11 and 20m high.

Pilotage.—Pilotage is compulsory. The pilot boards, in daylight only, about 0.5 mile E of the S outer breakwater. Communication is by VHF channel 16. Local agents must give 24 hours notice of a vessel's ETA to Chi-lung. Pilots and immigration officials are dispatched from Chi-lung. Permission to enter must be granted by the naval station.

Anchorage.—Ships anchor, in 21m, sand, with Hou-hou Pi, the head of the S promontory, bearing 178˚, and the 9.5m rock on Chung-hsin-t'ou bearing 278˚. Vessels also anchor farther NW, in 12.8 to 14.6m, or off the entrance to Pei-fang Wan, a small cove close W of the head of the N promontory. There are several mooring buoys west of the north promontory, the positions of which are best shown on the chart. Small craft anchor in the lee of Chung-hsin-t'ou or enter the fishing harbor where there is shelter from all winds.

8.7 **Nan-shan-chiao Pi** (24˚16'N., 121˚44'E.), about 21 miles SSW of Su-ao Kang, is a rocky point. Close W of the point there is an isolated peak, 1,383m high, which is easily identified as it is seldom obscured by clouds.

Caution.—A wreck is located in the approaches to Su-ao in position 24˚36'55"N., 121˚55'12"E.

There is a harbor situated 38 miles SSW along the coast between Su-ao Kang and Hua-lien Kang. The coast is steep-to and backed for the first 28 miles by a coastal range rising to elevations of 1,220 and 2,440m; the remaining 10 miles consists of widening coastal plains. Prominent red cliffs are visible at intervals along this stretch of coast.

Hua-lien Kang (24˚00'N., 121˚38'E.)

World Port Index No. 57910

8.8 Hua-lien Kang, about 64 miles SSW of San-tiao Chiao, is the principal port on the E coast of Taiwan. It consists of an open roadstead off the town of Hua-lien and an artificial harbor, sheltered E by a breakwater, lying about 2 miles NE of the town.

Winds—Weather.—West winds predominate from April to June and raise little sea inshore. At other times, all onshore winds send a swell into the roadstead. The artificial harbor is sheltered from all weather, but typhoons frequently damage the breakwater.

Tides—Currents.—Tidal currents set N on the flood tide and S on the ebb tide; they are weak in the roadstead.

Depths—Limitations.—The limiting dimensions for a vessel entering the harbor at HW are a length of 200m and a draft of 10.5m.

There are 24 berths in operation, with alongside depths ranging from 6.1 to 12m. The harbor and the entrance channel are protected from the E by a long breakwater running SSW almost parallel with the coast. The entrance channel to the inner harbor has a charted depth of 10.1m. Dredging was in progress within the outer harbor to maintain a depth of 14m for ships up to 50,000 dwt to enter.

Several rocks, with a depth of 12.5m, lies 0.25 mile E of the E breakwater elbow.

Aspect.—Mei-lun Shan, an isolated, 106m high hill, stands close inland of the town and is a prominent landmark. Lights are situated at the head of the W breakwater and close NE of the head of the E breakwater. Range lights are positioned at the inner end of the breakwater 0.3 mile apart apart; these lights in line lead through the entrance channel. A number of fixed lights are positioned on both sides of the entrance channel.

Pilotage.—Pilotage is compulsory and is available during daylight hours only. Vessels are berthed only from 0700 to 2400, but may be unberthed at any time.

The pilot boards in the anchorage area 1 to 2 miles S of the W breakwater. In bad weather, the pilot boards within the harbor breakwaters.

Regulations.—The harbor is closed to all vessels from 0000 until 0500. Large vessels are not allowed to enter after sunset. The vessel's ETA should be sent, via the agent, 24 hours in advance. Vessels should establish contact on VHF channel 14, when 10 miles from the port, stating the nationality, name, call sign, and ETA.

Signals.—A signal station on the western side of the entrance to the artificial harbor controls entry and departure by means of the International Code of Signals. Storm signals are displayed from a signal mast standing atop a low hill on the E side of Hua-lien.

Anchorage.—Vessels find temporary anchorage, in about 18m, sand, with the navigation light on the hill E of Hua-lien bearing 309˚, distant about 0.7 mile. The quarantine anchorage is about 1 mile ESE of Hua-lien light.

Caution.—Anchorage is prohibited within 183m of the range line between the quarantine anchorage and the entrance to Hua-lien. The inner channel is fairly narrow and only 80m wide.

Taiwan—East Coast—Hua-lien Kang to O-luan Pi

8.9 Between Hua-lien Kang and San-hsien-t'ai, 53 miles SSW, the coast is relatively straight and backed by a coastal range which is broken only in the vicinity of Hua-lien Kang; in places it is very steep-to.

San-hsien-t'ai (23˚08'N., 121˚24'E.) is a small rock-fringed islet which, lying close offshore, rises to three summits of which the central and highest rises to 74m. A light is situated on the islet.

The coastline between San-hsien-t'ai and O-luan Pi, about 80 miles SSW, continues regular with but few indentations interrupting a general trend to the S. Inland, the terrain is everywhere mountainous save for a large alluvial plain adjacent to rivers reaching the sea about 27 miles SW of San-hsien-t'ai. Offshore, depths are considerable and increase rapidly seaward

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of the 18.2m curve which parallels the coastline at a distance of less than one mile.

Cheng-kung Po-ti (23˚06'N., 121˚22'E.) is an open roadstead within a small bay about 3 miles SW of San-hsien-t'ai. Small vessels seeking shelter from NE winds can obtain anchorage, in 12.8m, sand, in a position about 0.2 mile W of an above-water rock standing on a reef extending S from the N entrance point of the bay. Larger vessels anchor farther offshore. A light is situated on Mao-hai Pi, close N of the anchorage. **Tu-lan Wan** (22˚50'N., 121˚12'E.), a bay entered about 20 miles SSW of San-hsien-t'ai, has depths too great for convenient anchorage except on its SW side where, with an offshore wind, small vessels anchor, in 10.9 to 18.2m, sand, clear of rocks extending about 0.5 mile offshore.

Hou-tzu Pi (22˚48'N., 121˚12'E.) is a rocky point extending 0.5 mile from the coast. Hou-tzu Shan stands 126m high on this landhead.

T'ai-tung Kang (22˚45'N., 121˚09'E.), about 27 miles SSW of San-hsien-t'ai, is an open roadstead fronting the N part of an extensive alluvial plain and the large community of T'ai-tung. Li-yu Shan, a high hill close W of T'ai-tung, is a conspicuous landmark visible 15 miles seaward.

Vessels anchor, in 12.8m, on a narrow coastal bank, with the summit of Li-yu Shan bearing 297˚, distant about 1 mile.

Pa-yao Wan (22˚08'N., 120˚53'E.), about 66 miles SSW of San-hsien-t'ai, is a small bay backed by a sandy beach and rugged hills. Small vessels, with offshore wind, anchor, in 12.8 to 18.2m, sand.

Kang-k'ou Wan (21˚59'N., 120˚51'E.), about 75 miles SSW of San-hsien-t'ai, is a wide bay backed by high, wooded hills rising everywhere steeply from the shore except in the mouth of a river which enters the NW part of the bay. Vessels, seeking shelter from SW winds, anchor, in 12.8 to 36.5m, sand, anywhere within the bay clear of dangers off the entrance to the river and in the S part of the bay.

O-luan Pi (21˚54'N., 120˚51'E.), the S extremity of a high, steep-faced, scrub-covered promontory extending well seaward, is the southernmost point of Taiwan. A light is situated on the SW side of O-luan Pi. It can be identified from the offing by Ta-chien-shih Shan, a high, finger-shaped peak about 5.3 miles NW, and by a conspicuous black-domed structure standing about 2 miles NNW of the seaward extremity of the headland.

Caution.—There are tide rips in the area SE of the point.

8.10 **Nan-liao** (Lu Tao) (22˚40'N., 121˚29'E.) is a steep-to volcanic islet with two peaks, 277 and 274m high; the higher peak is named Huo-shao Shan. The islet is grass covered with only a few trees. Chung-liao (Pi-t'ou Chiao), the NW extremity of the islet, is marked by a light. Nan-liao Wan and Chung-liao Wan are two small bays lying close S and E, respectively, of Chung-liao. Small vessels, seeking shelter from NE winds, anchor in Nan-liao Wan, in 23.7m, sand and rock. a good holding ground, with the highest summit of the island bearing 117˚, and a conspicuous building, standing in a village on the N side of the bay, bearing 356˚. Vessels should enter the anchorage from NW, with the peak bearing 117˚, and avoiding the dangerous wreck that lies about 1 mile S of the NW entrance point.

Tidal currents set N in the bay and can attain a maximum rate of 4 knots. Small vessels also anchor in Chung-liao Wan, in 31m, sand and rock, clear of dangers extending about 0.5 mile off each entrance point of the bay.

An ammunition dumping ground lies off the N coast of Nan-liao.

Lan Yu (22˚04'N., 121˚32'E.), a mountainous, steep-to, densely wooded island, lies about 33 miles S of Nan-liao. It is often shrouded by low-lying mist and, in winter, obscured by continuous rain. A light, with a radiobeacon, is situated on the NW point of the island. Vessels anchor in Pa-tai Wan, a small bight indenting the SW side of the island, in a depth of 18.2m, fine sand and good holding ground, with an above-water rock close off the NW entrance point of the bight bearing 270˚, and a conspicuous white building, about 0.5 mile E of the same point, bearing 027˚. Small vessels seeking shelter from all but E winds anchor in Tung-ch'ing Wan, a small bay on the E side of the island, in a depth of 20.1m, sand, in a position 0.3 mile offshore and midway between two villages at the head of the bay.

Hsiao-lan Yu is a high, largely rock-fringed island lying about 3 miles SSE of Lan Yu. Vessels transit the deep water fairway between the two islands by keeping in mid-channel and taking into account the existence of tide rips.

Caution.—Lan Yu is frequently shrouded by low-lying mist; in winter it is sometimes obscured by rain. Caution is required in approaching it, especially at night.

8.11 **Kao-t'ai Shih** (Gadd Rock) (21˚44'N., 121˚37'E.), about 91m in diameter, steep-to, and with a least known depth of 2.7m, lies about 12 miles SSE of Hsiao-lan Yu. At low water, the sea probably breaks on this reef; the vicinity is generally marked by violent tide-rips and whirls, which extend most of the way to Chi-hsing Yen, about 45 miles WNW. As these indications are not always present, Kao-t'ai Shih should be given a wide berth. A dangerous wreck lies close N of the shoal.

A bank, marked by heavy overfalls and sometimes by discolored water, and with several shoal depths, lies between 8 miles SW and 12 miles S of Kao-t'ai Shih.

Ch'i-hsing Yen (21˚46'N., 120˚49'E.) consists of a group of steep-to, above and below-water rocks lying about 8 miles S of O-luan Pi. The sea breaks heavily over them during periods of bad weather. The channel N of the rocks is clear of all dangers to navigation except for tide rips S of O-luan Pi.

Taiwan—West Coast—Fu-kuei Chiao to Tai-Chung

8.12 The W coast of Taiwan between Fu-kuei Chiao, the N extremity of the island, and Kao-hsiung Kang, about 175 miles SSW, is uniformly low and flat, except in the N part where mountains and high hills reach the sea and alternate with low-lying land between Fu-kuei Chiao and **Lu-chiang** (Rokko) (24˚03'N., 120˚25'E.), a populated coastal trading center about 98 miles SW. Numerous shallow rivers cross the coastal plain and enter the sea over bars passable only by small boats. A drying flat fronts the greater part of the coastal plain and extends as far as 8 miles offshore at **Wai-san-ting Chou** (23˚31'N., 120˚02'E.), a low sand cay about 40 miles SSW of Lu-chiang. Coastal shipping may anchor in exposed, open

Photo courtesy of Sophia McHarney

O-Luan Pi Light

roadsteads off several of the commercially unimportant towns along the coast.

The principal shipping centers are Tan-shui Kang, in the N, and An-p'ing Kang, and Tso-ying Kang, in the S.

There is a wreck, dangerous to navigation, situated 2.5 miles W of Tan-Shui Kang Light and 0.5 mile S of the entrance channel.

Caution.—Vessels should approach the low-lying W coast of Taiwan with caution since marginal mud flats continue to develop seaward, landmarks are few, and currents set strongly onshore.

8.13 Tan-shui Kang (25˚11'N., 121˚24'E.) (World Port Index No. 57935), about 10 miles SW of Fu-kuei Chiao, is the only riverine harbor on the coast of Taiwan. It lies in the entrance to the river Tan-shui Ho and extends upstream about 1.5 miles to the community of Tan-shui. The river, obstructed by a bar and subject to continuous silting, is encumbered by drying flats of sand and mud as far as T'ai-pei, about 9 miles upstream. The channel over the bar shifts but trends generally along the N bank of the river until, once inside the bar, it turns S at Tan-shui and favors the W bank. Coastal vessels, with a draft of not more than 3m, cross the bar and enter the harbor. Small craft only can berth alongside the facilities at Tan-shui. Pilotage is compulsory. Vessels anchor outside the bar, in 12.8m, sand and mud, in a position about one mile W of the N entrance point.A signal mast, for contacting vessels at anchor outside the bar, stands about 1 mile ESE of the N entrance point. Smaller vessels anchor inside the bar, according to draft, in a position not more than about 0.5 mile upstream from the signal mast.

Caution.—The anchorage outside the bar to Tan-shui Ho lies exposed to winds and strong currents which may require vessels to clear for sea at short notice. The anchorage inside the bar may become unsafe during the period when the river is at flood stage because of eddies and churned-up sand and mud. There is a foul ground dangerous to navigation 3 miles WSW of the Second Entrance breakwater.

Fish havens about 3 miles WSW of Tan-shui Kang can best be seen on the chart.

8.14 Sha Lung Oil Terminal (25˚09'N., 121˚11'E.) consists of two single point mooring buoys lying at the seaward end of submarine pipelines extending 2.5 miles NW and NNW from a point on the NW coast.

The terminal can accommodate 250,000 dwt tankers supplying the T'ao-yuan Refinery 10 miles SSE. Terminal operations cease between 15 October and 31 March owing to Northwest Monsoon. ETA is requested 24 hours in advance on VHF channel 16. Pilotage is obtained from Chi-lung Kang (see paragraph 8.3). The pilot boards 1 mile off the SBMs..

Pai-sha Chia (25˚03'N., 121˚04'E.), about 9 miles WSW from Sha Lung Oil Terminal, is the NW point of Taiwan. The coast is almost straight, and the point does not project. A light is situated on the point.

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Yen-shui Kang (24˚45'N., 120˚54'E.) is a small harbor formed by the entrance to a small river. In the vicinity of Hsiang-shan, a small village 0.5 mile N of Yen-shui Kang, there are several offshore oil platforms, well heads, and buoys.

8.15 The **QBK Oilfield** (24˚48'N., 120˚40'E.) consists of several offshore oil structures, platforms, well heads, and buoys, the positions of which may best be seen on the chart. A light (24˚33'N., 120˚44'E.), reported to be an excellent navigational aid, is situated on a hill, approximately 30 miles SW of Pai-sha Chia. A seawater pipeline, 3 miles WNW of this light, is marked at its outer end by a lighted buoy.

Caution.—A submarine oil pipeline is laid in a direction 277˚ from Hsiang-shan to an oil production platform 15 miles offshore.

Fish havens, in 20 to 30m, are located 3 miles WNW of Hsiang-shan and 1 mile N of the submarine oil pipeline.

A wreck lies 9 miles W of Hsiang-shan.

Tai-Chung (24˚17'N., 120˚30'E.)

World Port Index No. 57955

8.16 Tai-Chung is a new port which lies on the central W coast of Taiwan. It is entered between two breakwaters on the range light line of 115˚18', in a dredged depth of 11m. Unpredictable sets and strong winds can make handling difficult when approaching the breakwaters.

Winds—Weather.—The weather is generally good from April to September except during passage of a typhoon. However, SW gales occur occasionally. During the winter, the prevailing winds are from N to NNE direction, usually about force 4, but sometimes reaching, or even exceeding force 8. Rainfall is minimal.

Tides—Currents.—The mean tidal range is 3.7m. The spring range is 4.6m. During the Southwest Monsoon, from April to September, the main current is from the S at 1 to 2 knots. During the winter months, the current is from the N and can reach 4 to 5 knots.

Depths—Limitations.—At present, a vessel is limited to a draft of 13m. There are no loa or beam restrictions. The turning basin inside the breakwater has dredged depths of 11.9 to 13m.

Pier facilities are described in the accompanying table.

Tai-Chung—Harbor Facilities

Berth	Length	Depth	Remarks
1	250m	13m	Grain
2-3	500m	13m	Bulk cargo
4	200m	11m	Liquid cargo
4A	185m	9m	Cement
5-8	800m	11m	General cargo
5A	220m	11m	General cargo
8A	260m	11m	General cargo
9	260m	14m	Bulk cargo
10-11	640m	13m	Containers

Tai-Chung—Harbor Facilities

Berth	Length	Depth	Remarks
12-15	760m	10-11m	General cargo
23-26	760m	10-11m	General cargo
27-28	345m	11m	Cement
29-30	600m	14m	General cargo
31-32	640m	14m	Containers
101-102	680m	18m	Coal
99	250m	12m	Scrap iron
W1-W4	1,000m	13-14m	Oil

Aspect.—A light is shown from a white structure on top of a silo. The harbor entrance lights are situated on the outer and inner breakwater heads. A light situated at the head of a groin about 1.5 miles NE of the harbor entrance. Also, a lighted buoy is moored 1 mile N of this light. Range lights on the E side of the harbor lead through the channel entrance.

Tai-Chung

Tai-Chung Light

Pilotage.—Pilotage is compulsory and is available 24 hours. The pilot boards in position 24˚17.6'N., 120˚28.9'E,

Tai-Chung Inner Breakwater N Light

Tai-Chung Inner Breakwater S Light

about 0.5 mile SW of the head of North Breakwater. In bad weather, the pilot boards off either Keelung or Kao-hsiung. The ETA should be sent to the agent 24 hours and 12 hours in advance. ETA must also be sent to the harbormaster about 20 miles from port or when 2 hours from the pilot boarding area.

Anchorage.—Anchorage berths, best seen on the chart, extend SW from the harbor entrance, sand bottom. During the Northwest Monsoon, the holding ground is poor.

Anchorage is prohibited in an area which extends NW from a position about 0.5 mile N of the harbor entrance.

Caution.—Caution must be exercised when approaching the breakwater, as unpredictable sets and strong winds make handling difficult. The pilot vessel may be unable to leave the shelter of the breakwaters in strong winds.

8.17 Mai-liao Kung-yeh-kang (23˚47'N., 120˚10'E.), a newly-constructed port (2000), mostly consisting of reclaimed land, lies on the W coast of Taiwan between the Hsin-hu-wei Hsi and Cho-shui Hsi rivers. Development of the port continues, and was established mainly to support the Formosa Plastics Group.

Tides—Currents.—Strong tidal currents are present in the harbor approaches.

Tai-Chung Signal Station

Depths—Limitations.—The entrance channel, reportedly, is going to be dredged to a depth of 24m, but until then the least charted depth in the approach is 14.7m. It is reported the port can handle VLCC's with a maximum loa of 310m, and a 19.5m draft. The harbor entrance is 509m wide.

Mai-liao Kung-yeh-kang—Harbor Facilities

Berth	Max. LOA	Max. Draft	Remarks
N1	220m	11.8m	Chemicals/LPG
N2	220m	12.0m	Chemicals/LPG
N5	85m	6.7m	Chemicals
N6	100m	7.2m	Chemicals
N7	85m	6.7m	Chemicals
W1	205m	11.0m	Products/Naptha
W2/W3	310m	19.5m	Products/Crude oil
E1	180m	10.3m	Multi-purpose

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Mai-liao Kung-yeh-kang—Harbor Facilities			
Berth	Max. LOA	Max. Draft	Remarks
E2	240m	14.2m	Bulk cargo/Salt
E3	285m	14.7m	Bulk cargo/Coal

Aspect.—Two breakwaters protect the harbor, with the N breakwater extending SW for 1.5 miles, and the S breakwater extending N for 0.75 mile. Several chimneys exist in the port complex, many of them lighted. The N berths lie at the N end of the harbor, the W berths lie at the N end of the N breakwater, and the E berths lie at the N end of the E side of the harbor.

Pilotage.—Pilotage is compulsory and available during daylight hours only. The pilot boards about 1 mile S of Anchorage No. 1.

Regulations.—A TSS is reported to exist in the approach channel.

Anchorage.—Two anchorages, Anchorage No. 1 to the NW of the approach channel and Anchorage No. 2 to the SE of the channel, are used for waiting and quarantine. Anchorage No. 3 is approximately 8 miles SW of the port. There is poor holding ground, sand.

Caution.—It has been reported that many fishing boats and nets are in the area around the anchorages and near the approach channel.

Wai-sheng Chiao to Kao-Hsiung Kang

8.18 Wai-sheng Chiao (23˚42'N., 120˚10'E.), about 40 miles SW of Tai-chung, is a mud point. The coast for 7 miles S of Wai-sheng Chiao consists of sandhills. A light is situated on the end of a drying spit 5 miles SW of Wai-sheng Chiao. A shoal, with a depth of 1.8m, exists 1.8 miles WSW of the light.

Tung Shih Kang, about 15 miles SSW of Wai-sheng Chiao, is a small town frequented by junks. A light is situated 7 miles W of the town. Ts'eng-wen Hsi enters the sea about 25 miles SSW of Tung Shih Kang; the mouth of the river lies between sand dunes. A light is situated off a cay 3.5 miles NNW of the mouth of the river.

An-p'ing Kang (23˚00'N., 120˚09'E.) (World Port Index No. 57930), about 7.5 miles SSE of the entrance to Ts'eng-wen Hsi, is the roadstead off the entrance to a small boat canal that leads first to the community of An-p'ing and then inland about 2.5 miles to T'ai-nan, the thirdmost populated city on the island. The roadstead is sheltered from the prevailing winds of the Northwest Monsoon season, but exposed to SW winds which predominate from March to December. Black chimneys in An-p'ing, radio towers in T'ai-nan, and a large white house about 5 miles SE of An-p'ing are conspicuous landmarks in distinguishing the roadstead from surrounding low land, salt pans, and lagoons.

Vessels anchor, in 9.1m, mud and sand, in a position about 1.3 miles W of the entrance to the canal. Cargo is transferred by lighter. Lights are situated from the heads of the breakwaters protecting the entrance to the canal. Tidal currents in the anchorage are weak, setting S on the flood tide and N on the ebb tide.

Caution.—Several submarine cables exist near the entrance to An-p'ing Kang.

8.19 An-p'ing New Harbor (22˚58'N., 120˚09'E.), the entrance to the inner harbor, situated 1 mile SE of the old entrance and has a depth of 7.5m for vessels up to 6,000 dwt. It is entered between the N and S breakwaters where lights are shown from the heads.

There is a deep water wharf, 480m long and a shallow water wharf, 320m long. Three lighted beacons are situated from the S wharf, and also from the N wharf.

Fish havens lie in 20 to 25m, 3 miles and 4 miles SW, respectively, of An-p'ing New Harbor.

The coast from An-p'ing to Tso-ying, 19 miles SSE, consists of a straight sandy beach, along which some small, shallow rivers discharge. Close within, some beach areas, the marshes and lagoons are separated from the sea by narrow sandbars, covered with shrubs and grass in places. These sandbars, populated by fishermen with rows of rafts hauled on the beach, forms a characteristic feature of the coast.

Between An-p'ing New Harbor and Kao-Hsiung, there are numerous fish havens which are best shown on the chart.

A tanker mooring buoy lies 3.3 miles WNW of the entrance to Tso-ying Kang, and a pipeline is laid ENE from the buoy to the shore. Three conical lighted buoys situated close to the mooring buoy.

Anchoring in the vicinity of the pipeline is reported prohibited.

Yun-An LNG Terminal (22˚48.8'N., 120˚10.6'E.) is situ-ted on a reclaimed land 7.8 miles NNW of Tso-ying Kang. A breakwater extending 0.4 mile WSW then 0.8 mile NNW from the shore provides protection to the unloading platform lying between it and the terminal.

A light is shown from the terminal tug berth. A light is shown from the breakwater head. A light is shown from the unloading platform control room. Dolphins exist 220m N and 280m S and each shows a light.

A lighted buoy is moored 1 mile NNW of the breakwater head. Fish havens lie in 20 to 35m depths, within a radius of 500m, 2.6 miles SSW and 4.5 miles NNW of the breakwater head. A wave recorder lies 0.5 mile SW of the breakwater head to which it is connected by submarine cable.

Three dangerous wrecks lie 3.7 miles S of the breakwater head.

8.20 Tso-ying Kang (22˚42'N., 120˚15'E.), a small naval harbor entered about 4 miles N of Kao-hsuing Kang, is entered between two breakwaters.

A net gate is between the breakwaters. A light is situated from the head of each breakwater. Another light is situated from the head of the net gate. Range lights lead into the harbor on a bearing of 103˚.

The entrance channel, with a minimum depth of 7.9m, accommodates vessels 154m long and drawing 7.3m. A signal station stands on the S entrance point of the harbor. Pilotage is compulsory.

Tidal range is about 0.8m. Tidal currents set N on a rising tide and S on a falling tide at a rate of less than one knot.

Vessels anchor, in 9.1 to 14.6m, sand, in an area between 0.5 and 1.3 miles W of the harbor entrance. They board pilots from a tug on station in the anchorage area. This anchorage is not recommended except in offshore winds.

Kao-Hsiung Kang (22˚37'N., 120˚15'E.)

World Port Index No. 57920

8.21 Kao-Hsiung Kang, the harbor for Kao-hsiung, is one of the largest seaports in Taiwan, with 67 deep water wharves and 27 mooring buoys with the capacity to accommodate 102 ships at the same time. Kao-hsiung, lying adjacent to the confluence of a small river and the N side of the inner harbor, is the largest industrial center of the island and the secondmost populated city.

Winds—Weather.—Winds from W to NW predominate between October and March, while winds from S to SW predominate the remainder of the year. Typhoons occur without much warning from June to October and can create waves in the harbor entrance reaching a height of 8.9m. The outer harbor may become untenable during storms and periods of the Southwest Monsoon seasons. The inner harbor is safe in all weathers.

Fog occurs most frequently from November to April. The rainy season occurs during the summer when on the average, rain falls 18 days a month. Heaviest rainfalls occur in August.

Tides—Currents.—The tides have a large diurnal inequality and often, though a marked seiche exists, only one tide a day occurs. Tidal rise averages usually less than about 1m.

Off the coast, tidal currents set S on a rising tide and N on a falling tide. At the entrance to the outer harbor, they set SE toward the S breakwater on a rising tide and NW on a falling tide. At the entrance to the inner harbor, they set in the axis of the channel. Current velocity generally ranges between 1 and 1.5 knots, but under certain conditions, it reaches 3 knots.

Depths—Limitations.—The harbor is divided into two entrances.

The **First Entrance** (22˚37'N., 120˚15'E.) lies between the heads of two breakwaters extending 1 mile SW and NW from the shore. The fairway, which is dredged to 11m, narrows to a width of 122m about 0.5 mile within the breakwaters. The harbor limits have been extended. New dimensions can be seen on the chart.

The **Second Entrance** (22˚33'N., 120˚18'E.) is situated about 5 miles SE of First Entrance and is a man-made cut through the narrow sandy strip fronting the harbor. A dredged channel, about 183m wide, leads between the breakwater heads into the entrance into the Inner Harbor.

It has been reported that the Second Entrance has a least depth of 16m and can handle fully loaded tankers of 100,000 dwt.

There are no length or beam restrictions; the largest vessel that has been accommodated had a length of 290m and a beam of 32.3m.

Kao-Hsiung Harbor is subject to silting. The depths alongside the major berths quoted below and the depths shown on the chart are approximate and are not reliable.

Kao-Hsiung Kang—Harbor Facilities

Berth	Length	Depth	Remarks
Penglai Commercial Harbor			
1	259m	9.0m	Passenger
2	137m	9.0m	General
3	150m	9.0m	Work boats
4	150m	9.0m	General
5	150m	9.0m	General
6	150m	9.0m	General
7	150m	9.0m	General
8	150m	10.5m	General
9	142m	10.5m	General
10	150m	10.5m	General
	123m	6.5m	Repairs
Yencheng Commercial Harbor			
1	160m	5.5m	Work boats
	102m	6.5m	General
2	291m	6.5m	General
3	378m	4.5m	Work boats
11-12	322m	9.0m	General
Lingya Commercial Harbor			
14	150m	9.0m	Cement
15-16	330m	9.0m	General
17	150m	9.0m	Cement
18-20	452m	9.0m	Bunker
21	123m	5.0m	Barges
22	120m	10.5m	Inactive
25	250m	10.5m	Fertilizer
Chungtao Commercial Harbor			
27	222m	10.5m	Private
28-30	586m	10.5m	Private
31-39	1,806m	10.5m	General
40-43	636m	10.5m	Containers
44	199m	10.5m	Grain
45	200m	11.0m	Bulk
46-47	400m	10.0-11.0m	Sugar
48-55	1,660m	10.5m	Bulk
56-57	384m	10.5m	Dangerous cargo

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Kao-Hsiung Kang—Harbor Facilities			
Berth	**Length**	**Depth**	**Remarks**
58	306m	4.5m	Work boats
Chienchen Commercial Harbor			
59	164m	6.5m	Work boats
60-62	611m	6.5-10.5m	Petrochemicals
63-66	1,204m	12.0m	Container Terminal 2
Hsiaokong Commercial Harbor			
68-70	1,082m	14.0m	Container Terminal 3
71-72	630m	14.0m	Grain
Tajen Commercial Harbor			
74	314m	13.0m	Cargo
75-81	2,130	14.0-15.0m	Containers
Chunghsing Commercial Harbor			
115-122	2,213m	14.0m	Containers

A tunnel under the main channel connects this area with the mainland at NW end of Container Terminal No. 3. There are mooring buoys for 24 deep sea vessels.

Aspect.—Wan-shou Shan (Shou Shan) (22˚39'N., 120˚15'E.), about 1 mile N of the First Entrance, is 358m high and is the best landmark in the area. It is composed of coral with a crater-like summit. On N bearings it appears like a truncated cone; there is a large white patch on its seaward side. In clear weather it can be seen from a distance of 35 miles, when it appears like an island. The peak is reported to be radar conspicuous at a distance of 21 miles.

Ch'i-hou Shan (22˚37'N., 120˚15'E.) is a flat-topped cliffy ridge on the S side of the narrowest part of the First Entrance. A light is shown at an elevation of 58m from a white, octagonal brick tower on the N and highest part of this ridge; a radio tower and a white round tower stand nearby. A racon and a radiobeacon transmit from this position. A tall lattice tower stands near the lighthouse; a similar tower stands on the N side of the entrance. Lights are shown from the breakwaters at First Entrance Range lights lead through the Second Entrance.

Pilotage.—Pilotage is compulsory and is available 24 hours. The pilot boards 2 miles WNW of the First Entrance, 2 miles WSW of the Second Entrance, or in any quarantine anchorage area. Tankers over 15,000 grt and 200m loa must take two pilots. Vessels should contact Kao-Hsuing Port Radio 1 hour before arriving in the roads. Vessels should then contact the pilots on VHF channel 13 and maintain a continuous listening watch until the pilot boards.

Regulations.—Vessels are not permitted to enter Kao-hsiung Kang at night without special permission. They should display their international call sign in the approaches to the harbor and, anchor in the outer harbor, south of the approach lane, and within sight of the signal tower.

Upon completion of arrangements for berthing and off-loading, the pilot, customs and immigration authorities, and the ship's agent will board. The Quarantine flag should be flown until clearance is granted, at which time the pilot will notify the signal tower (by walkie-talkie) of that fact and request permission to enter port. The ship should again hoist the international call sign. Permission to enter is granted by radio and also visually by the signal tower.

Photo courtesy of Sophia McHarney

Ch'i-Hou Shan

Vessels carrying dangerous cargo must be in possession of effective documents for examination (IMO, SOLAS) to enter and sail from the port at night except in circumstances where there is fog and hazardous weather and then, under no conditions will a vessel carrying dangerous cargo enter or sail from Kao-hsiung.

Vessels carrying dangerous cargo berthed at Pier 29 can only be shifted at night when weather is good and the vessel is equipped with a bow thruster.

When vessels berth at Pier No. 57, Pier No. 60, Pier No. 61, and Pier No. 62 for loading or discharging dangerous cargo, they must enter the First Harbor entrance and sail out from the Second Entrance after operations.

A port radio station exists at Kao-hsiung. The following information should be signaled at least 24 hours in advance through Kao-hsiung Coast Radio Station:

1. Name of vessel.
2. Nationality.
3. ETA.
4. Draft.
5. Description of cargo.
6. Number of passengers.

Signals.—Signal stations are situated on the N shore of the narrows at the First Entrance and on the N shore of the Second Entrance. A storm signal station is located 0.2 mile N of the narrows at the First Entrance.

Anchorage.—Large vessels anchor, in 25.6m, sand and mud, in a position about 2 miles W of the light on Ch'i-hou Shan, a flat ridge forming the S side of the entrance to the inner harbor. Vessels also anchor, in 7.4 to 18.2m, NW of the head of the N breakwater. Smaller vessels anchor within the outer harbor, in 5.5 to 7.4m, and clear of the fairway. Anchorage is prohibited within the fairway in the inner and outer harbor.

Both the first and second harbor entrances have separate quarantine anchorages. The limits of these anchorages are best shown on the chart.

During the Northwest Monsoon season, vessels are recommended to anchor NW of the N breakwater where a lee from the prevailing NE winds is provided by Shou Shan. During the Southwest Monsoon season, they anchor W of Ch'i-hou Shan where ample sea room is available off a lee shore. The holding ground is good and vessels seldom drag anchor except when in ballast during Southwest Monsoon gale winds.

A prohibited anchorage area extends 1.6 miles WSW of the Second Entrance breakwater heads.

The area between the First and Second Entrance Quarantine Anchorages (22˚35.3'N., 120˚16.7'E.) is a prohibited area where a submerged pipeline extends 1 mile SW of the shore at Ta-shan-t'ou. Anchoring is prohibited within 200m on either side of the pipeline. Six lighted buoys are moored around the head of the pipeline.

Anchoring is also prohibited in the area 50m on either side of the center line of the Cross Harbor Tunnel between Berth No. 68 and Berth No. 117.

Directions.—To obtain the deepest water, approach the First Entrance from a position about 1 mile WNW, steering to pass midway between the breakwater heads; then follow a mid-channel course through the entrance to the Inner Harbor.

The best time to enter is reported to be at the end of the flood current.

Range lights lead through the dredged channel of the Second Entrance. Due to bright background lights at night and various obstructions, it was reported (2001) that these lights are no longer being used.

Caution.—Small fishing vessels often lie just seaward of the entrance to Kao-hsiung Kang. There is a dangerous wreck lying close NW of the breakwater.

A dangerous wreck lies 2.5 miles SW of the First Entrance S breakwater.

A S tidal current, augmented by a strong N wind, tends to set entering vessels onto shoals near the S breakwater. Several groundings have been attributed to this set.

A submarine net, supported by several buoys painted gray, extends between the N and S breakwater heads at the seaward entrance to the outer harbor. During periods when current velocity is strong, vessels will require careful attention and prudent seamanship to clear the net and buoys with safety.

There is a foul ground dangerous to navigation 3 miles WSW of the Second Entrance breakwater.

A dumping ground has been established 7 miles WSW of the Second Entrance breakwater. Limits can be best seen on the chart.

Taiwan—West Coast—Kao-hsiung Kang to O-luan Pi

8.22 The coast between Kao-hsiung Kang and O-luan Pi, about 55 miles SE, continues in general low-lying for a distance of about 27 miles then, as far as the S extremity of Taiwan, it becomes progressively more mountainous and bold. The off-lying island Liu-ch'iu Hsu, an offshore oil terminal, and several exposed anchorages for small vessels are of principal interest to navigation along this stretch of coast.

Ta-lin-pu Offshore Oil Terminal (22˚30'N., 120˚17'E.) consists of four SPM berths that lie between 2 and 4 miles off the SW coast of **Ta-lin-pu** (22˚32'N., 120˚20'E.). All SPMs are connected by submarine pipelines leading NE to the shore at Ta-lin-pu, marked at the shore landing points.

SPM Lighted Buoy No. 1 has a least depth of 21m and can moor tankers up to 250,000 dwt with a maximum draft of 18m.

SPM Lighted Buoy No. 2 has a least depth of 29m and can moor tankers up to 250,000 dwt. SPM Lighted Buoy No. 3 has a least depth of 32m and can moor tankers up to 300,000 dwt.

Pilots board by arrangement in the vicinity of the SPMs. Vessels awaiting a pilot and arrival clearance, anchor 1.5 miles W of the terminal. If for some reason a vessel is unable to enter a berth directly, it anchors off Kao-hsiung Kang, in a position about 2 miles W of the light on Ch'i-hou Shan.

Anchoring is prohibited within 1.5 miles of the SPMs.

Caution.—A wreck, with a depth of 5m, lies about 0.8 mile NE of SPM Lighted Buoy No. 1.

Berthing may not be possible during periods of bad weather; moreover, when wind speeds reach 35 knots the berths must be vacated. Passage is prohibited within 1,200m of these moorings and within 100m of the pipelines.

8.23 **Liu-ch'iu Yu** (22˚21'N., 120˚22'E.), about 17 miles SSE of Kao-hsiung Kang, is a small, partially reef-fringed island which, rising to low, flat-topped summits in the NE and SW portions, has a sandy beach on the SE side and cliffs on the NW.

A small breakwater-sheltered fishing harbor lies on the NE side.

A light is situated on the hill at the SE end of the island. The island is reported radar conspicuous at 28 miles.

Vessels anchor, in 36.5m, sand, about 0.4 mile off the sandy beach on the SE side of the island. Anchorage is prohibited between the NE end of the island and the land about 7 miles NE.

A submarine cable and a pipeline are laid NW from Liu-ch'iu Yu to the mainland. The cable is laid midway along the SE side of the island and the pipeline at the NE extremity. The cable locations on both island and mainland are marked by beacons. Anchoring is prohibited in the vicinity of both cable and pipeline.

Tung-Kang Po-ti (22˚27'N., 120˚26'E.) is the roadstead off Tung-Kang, a small community lying on the S side of the confluence of Tung-chiang Ch'i and Hsia-tan-shui Ch'i, two shallow rivers which, accessible to small boats, reach the sea about 13 miles SE of Kao-hsiung Kang.

Vessels, seeking shelter from NE winds, anchor, in 17.3m with a dark clump of trees about 1.8 miles SSE of Tung-Kang, bearing 090˚, distant about 1.5 miles.

Fang-liao Kang (22˚22'N., 120˚35'E.), an open roadstead off Fang-liao, a small community about 24 miles SE of Kao-hsiung Kang, is the best offshore shelter, even in winter, on the W coast of Taiwan.

Vessels anchor, in 12.8m about 1.5 miles NW of a conspicuous white bridge which crosses a stream about 1 mile SSE of Fang-liao.

An experimental fishing area, marked by four lighted buoys, lies within 1 mile of position 22˚13.1'N., 120˚38.2'E.

Fish havens, in depths of 60 to 80m, lie between 1 to 2 miles W of **Ch'e-ch'eng Chiao** (22˚05'N., 120˚42'E.).

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A floating fish farm, with a radius of 800m, marked by two flashing white lights with radar reflectors, is located in position 22˚07.7'N., 120˚31.6'E.

8.24 Hai-k'ou Wan (22˚06'N., 120˚42'E.), a small, reef fringed bay with a breakwater-sheltered fishing harbor on the SE side, is located about 40 miles SE of Kao-hsiung Kang. Li-lung Shan, about 4 miles NNE, is a high, wooded, cone-shaped summit which, during clear weather, is a conspicuous landmark in approaching the bay.

Small vessels anchor, in 8.2m, sand, in a position about 0.3 mile WNW of the entrance to the fishing harbor and with Chien Shan, a high, sugarloaf hill near the N entrance point of the bay, bearing 018˚. The best approach to the anchorage is on a bearing of 112˚ and heading for the S breakwater head.

Ta-pan-lieh Mao-ti (21˚57'N., 120˚45'E.), a reef-fringed inlet at the head of Nan Wan, a broad bay extending about 7 miles WNW from O-luan Pi, is the safest anchorage on the S coast of Taiwan; sheltered from all but S winds.

Vessels anchor, in 12.8 to 36.5m, sand, about 0.5 mile off Ta-pan-lieh, a small whaling community at the head of the inlet. There is an auxiliary port to Kao-hsiung Kang at **Tapeng** (21˚57.5'N., 120˚45.4'E.). It is reported that breakwaters exist and a berth with 5m depths is in use.

O-luan Pi (21˚54'N., 120˚51'E.), the S point of Taiwan, is described in paragraph 8.9.

Caution.—There are strong tidal races off Mao-pi T'ou, the W entrance point of Nan Wan.

8.25 Taiwan Strait (Formosa Strait) (24˚00'N., 119˚00'E.), the body of water between Taiwan and the mainland, may be defined as lying between the W coast of Taiwan and a stretch of the mainland coast between the entrance to the river **Min Jiang** (26˚05'N., 119˚32'E.), in the N, and the vicinity of **Lien-hua-feng Chiao** (22˚56'N., 116˚29'E.), in the S. It has a least width of 70 miles between Pai-sha Chia, the NW extremity of Taiwan, and **Hai-t'an Tao** (25˚33'N., 119˚48'E.), an island off the mainland coast. The principal underwater danger is **Taiwan Banks** (23˚00'N., 118˚35'E.), an extensive shoal area lying in the S reaches of the strait.

The least known depth is 8.2m, but turbulent surface agitation would seem to indicate that less depths may exist. Elsewhere, the strait is deep and clear, save for the islands of P'eng-hu Lieh-tao, reported dangers lying N of the islands, and the off-lying dangers fronting the mainland coast.

Caution.—New shoals are reported to emerge continually off the W coast of Taiwan, especially rising between 23˚N and 24˚20'N, and often with an onshore set. Mariners should give this portion of the coast a wide berth.

The charted depths in the vicinity of position 23˚15'N, 117˚45'E are derived solely from ships reports which indicate sand waves. In addition, unreported shoals may exist. The presence of sand waves was also reported in the vicinity of position 24˚20'N, 119˚30'E.

Numerous oil installations, exploratory rigs, and oil service traffic exist in an area bounded by latitude 24˚47'N and 24˚51'N and longitude 120˚36'E and 120˚45'E.

Peng-Hu Ch'un-Tao

8.26 Peng-Hu Ch'un-Tao (Pescadores Islands) (23˚23'N., 119˚30'E.) is a scattering of islands divided into a N group and a S group by Wang-An Kang-Tao, a clear deep water channel with a least width of about 5 miles. The islands are flat, barren, and similar in appearance. The highest elevation is about 79m and, as they are all similar in appearance, it is very difficult to identify any of them in bad weather.

The N group of islands consists of three closely juxtaposed larger islands and several adjacent smaller islands. P'eng-hu Kang, with Ma-kung Kang, is the harbor formed by the larger islands. The S group consists of numerous scattered islets, reddish in color. Radar returns are unreliable.

P'eng-hu Kang-tao (Pescadores Channel) is the body of water lying between P'eng-hu Tao and the W coast of Taiwan. It has a least width of about 17 miles between Wai-san-ting Chou, off the Taiwan coast, and Ch'a-mu Yu, two small islets lying about 2 miles SE of the largest island in the N group of P'eng-hu Ch'un-tao. The fairway is deep in mid-channel.

Directions.—Vessels approaching from the W and S should proceed to a position about 2 miles S of Ch'ih-tzu Wei then steer ENE through the SW approach channel with the two lights N of Ma-Kung in range 063.75˚, keeping clear if the submerged obstruction extending S from the S side of Hsi Yu and the shoal spit extending NW from T'ung-p'an Yu.

Vessels approaching from the E should clear Liu-ch'ih Shih and proceed to a position about one mile E of Hu-ching Yu, then steer WNW through the SE approach channel with the light on Ch'ih-tzu Wei on a heading of 308˚, keeping S of the shoal patches in the middle of the channel. When Fou-wen, a drying rock lying W of the W extremity of P'eng-hu Tao, falls abaft the starboard beam vessels haul gradually to starboard and join the lighted range for the SW approach channel on a heading of 063˚.

Caution.—A close attention should be paid to the several underwater dangers lying in the approaches to P'eng-hu Kang and to tidal currents which set athwart the axis of the SW approach channel and parallel to the axis of the SE approach channel at a velocity greater than 5 knots on the flood and 3 knots on the ebb.

Depths, sandbanks, and cays within an area from 23 20'Nto 23 45'Nand up to 10 miles off the coast are subject to continual change. Vessels should navigate with caution.

8.27 P'eng-bu Tao (23˚34'N., 119˚37'E.) and Pai-sha Tao, on the E, and Hsi Yu, on the W, are the three main islands of the group. The two islands to the E are joined by extensive areas of drying flats which continue intermittently N for a distance of about 8 miles.

Numerous above and below-water dangers lie scattered off the E side of the group. The farthest seaward dangers are Wai-ch'ien Shih, with a depth of 1.2m, and Liu-ch'ih Shih, with 0.9m, which lie 4 miles NE and 5 miles SE, respectively, of the SE extremity of P'eng-hu Tao. Liu-ch'ih Shih is marked by rips; Wai-ch'ien Shih is marked by strong whirlpools.

Small vessels, seeking shelter from NE winds, anchor, in 8.2 to 11m in either of two bays indenting the W side of Hsi Yu, the hilly reef-fringed W island of the group.

Return to paragraph: 8.1

P'eng-hu Kang (23˚36'N., 119˚32'E.) (World Port Index No. 57950), the principal anchorage for P'eng-hu Ch'un-tao, lies sheltered from the prevailing winds of the Northwest Monsoon season. It is entered between the SE extremity of Yu-weng Tao and the dangers lying off Feng-kuei-wei Chiao, a point near the W extremity of P'eng-hu Tao. The S approaches are in deep water, but partially blocked by the islets. Hu-ching Yu and T'ung-p'an Yu and the shoal spit extending NW from the latter. Anchorage is prohibited in an area where submarine cables are laid. The area is best shown on the latest chart, and it begins between pecked lines drawn across the harbor entrance. A SE approach channel, swept clear to a depth of 8.9m, lies between Hu-ching Yu and P'eng-hu Tao. The SW approach and principal channel lies between Hsi Yu and the spit NW of T'ung-p'an Yu.

8.28 **Ma-kung** (23˚34'N., 119˚33'E.) has a quay wall, 655m long with depths of 3.7 to 5.5m alongside, which can handle cargo and passenger ships up to 5,000 dwt. There is a basin for fishing craft with depths of 1.5 to 3.7m.

Ma-kung Kang, an inlet continuing P'eng-hu Kang to the SE from Feng-kuei-wei Chiao, lies sheltered from most all weather conditions. The community of P'eng-hu lies near the N entrance point of the inlet. Vessels anchor clear of charted dangers, in 9.2 to 25.6m, sand and mud, in a position about 2 miles NNW of the S entrance point of Makung Kang. Vessels usually moor to buoys in Makung Kang. Small vessels also berth along facilities at P'eng-hu and the S side of T'se-t'ien Tao.

T'se-t'ien Tao, an island close inside the entrance, is the site of a naval station and repair facilities for small vessels.

Traffic signals are displayed from the N entrance point of the inlet. Berthing signals are displayed from a mast standing in the SW part of T'se-t'ien Tao.

Vessels anchor clear of charted dangers, in 9.2 to 25.6m, sand and mud, in a position about 2.5 NNW of the S entrance point of Makung Kang. Vessels usually moor to buoys in Makung Kang.

Only small vessels berth along facilities at P'eng-hu and the S side of T'se-t'ien Tao.

P'eng-hu Ch'un-tao S Group consists of two main islands, Wang-an Tao and Ch'i-mei Yu, and numerous scattered islets and underwater dangers lying E and W.

Anchorage.—Vessels seeking a NE lee anchor, in 11 to 14.6m, sand and shell, in a position clear of dangers fronting a small cove in the N part of the W side of Wang-an Tao. Vessels seeking a SW lee anchor, in 16.4 to 18.2m, in a position about 0.3 mile S of an above-water rock lying on the outer part of a reef extending NE from the NE extremity of the same island.

Small vessels that are seeking shelter during the summer months have been reported to anchor off the N side of Ch'i-mei Yu.